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ABSTRACT

Electronic assemblies, especially one containing volatile memory, used a flexible membrane with conducting lines which acts as an intrusion sensor against chemical and mechanical attacks. The lines are fabricated from inherently conducting polymers which are solution processed and directly patterned. The material was applied to a flexible polymer film by spin coating and patterned by application of a resist, followed by exposure/development of the resist and transferring the image into the polyaniline by reactive ion etching techniques. The conducting lines have high conductivity, tranparency properties which made them difficult to detect and possess excellent adhesion to the substrate film, as well as to the potting material which enclosed the structure. They also offered lightweight advantages over conventionally filled materials. These materials can also be used in conjunction with conventional conductor materials to further enhance protection against intrusion by sophisticated mechanical means.